CSE-1006 | Lab Assignment-4 | L29-L30

Academic year: *2021-2022* | Semester: *WIN*

Faculty Name: ***Dr Arunkumar Gopu*** | Date: ***18/5/2022***

Student name: ***M.Taran*** | Reg. no.: ***19BCE7346***

importing

In [1]:
```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

In [5]:
```
data = pd.read_csv("/content/Dataset.csv")
data
```

Out[5]:

	Gender	Age	Education Level	Institution Type	IT Student	Location	Load to shedding	Financial Condition	Internet Type	Network Type	Class Duration	Self Lms	Devic
0	Boy	21 to 25	University	Non Government	No	Yes	Low	Mid	Wifi	4G	3 to 6	No	Ta
1	Girl	21 to 25	University	Non Government	No	Yes	High	Mid	Mobile Data	4G	1 to 3	Yes	Mobile
2	Girl	16 to 20	College	Government	No	Yes	Low	Mid	Wifi	4G	1 to 3	No	Mobile
3	Girl	11 to 15	School	Non Government	No	Yes	Low	Mid	Mobile Data	4G	1 to 3	No	Mobile
4	Girl	16 to 20	School	Non Government	No	Yes	Low	Poor	Mobile Data	3G	0	No	Mobile
...	...	...	...	...	...	...	...	...	...	...	...	...	...
1200	Girl	16 to 20	College	Non Government	No	Yes	Low	Mid	Wifi	4G	1 to 3	No	Mobile
1201	Girl	16 to 20	College	Non Government	No	No	High	Mid	Wifi	4G	3 to 6	No	Mobile
1202	Boy	11 to 15	School	Non Government	No	Yes	Low	Mid	Mobile Data	3G	1 to 3	No	Mobile
1203	Girl	16 to 20	College	Non Government	No	No	Low	Mid	Wifi	4G	1 to 3	No	Mobile
1204	Girl	11 to 15	School	Non Government	No	Yes	Low	Poor	Mobile Data	3G	1 to 3	No	Mobile

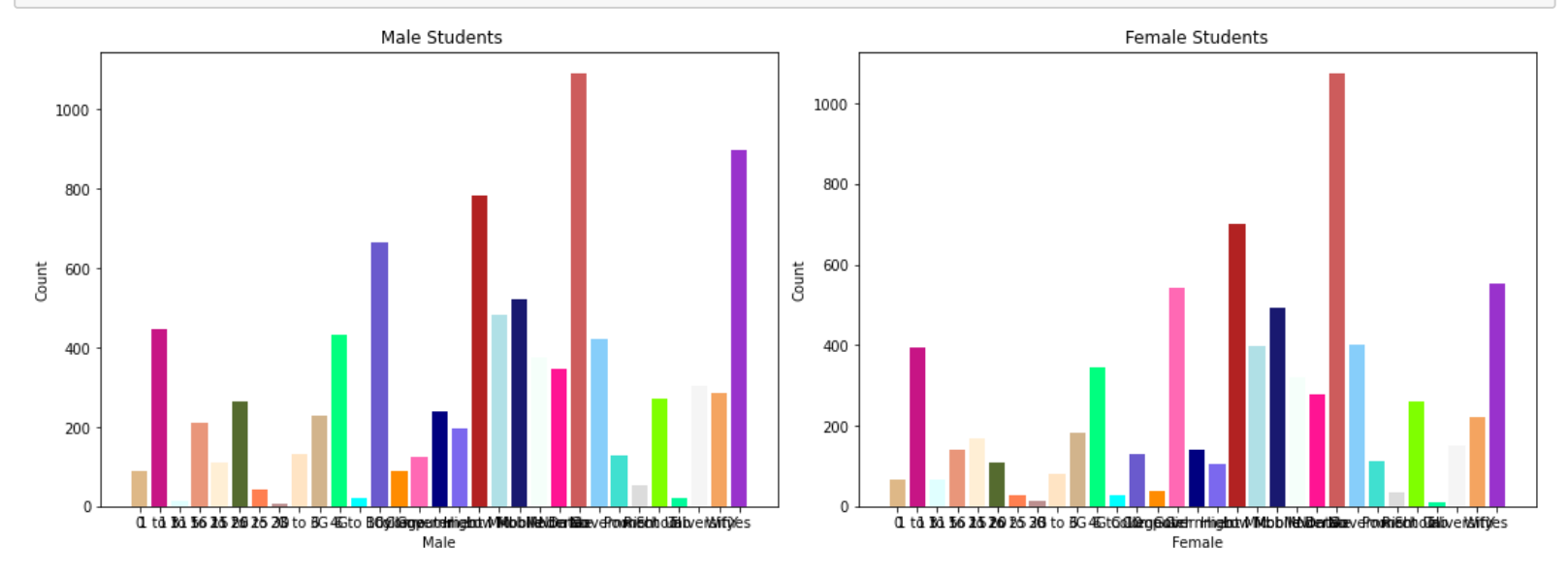
1205 rows × 14 columns

1. Draw an appropriate graph to count the number of boy and girl students who participated in the survey.

In [17]:
```
df.Gender.value_counts()
```

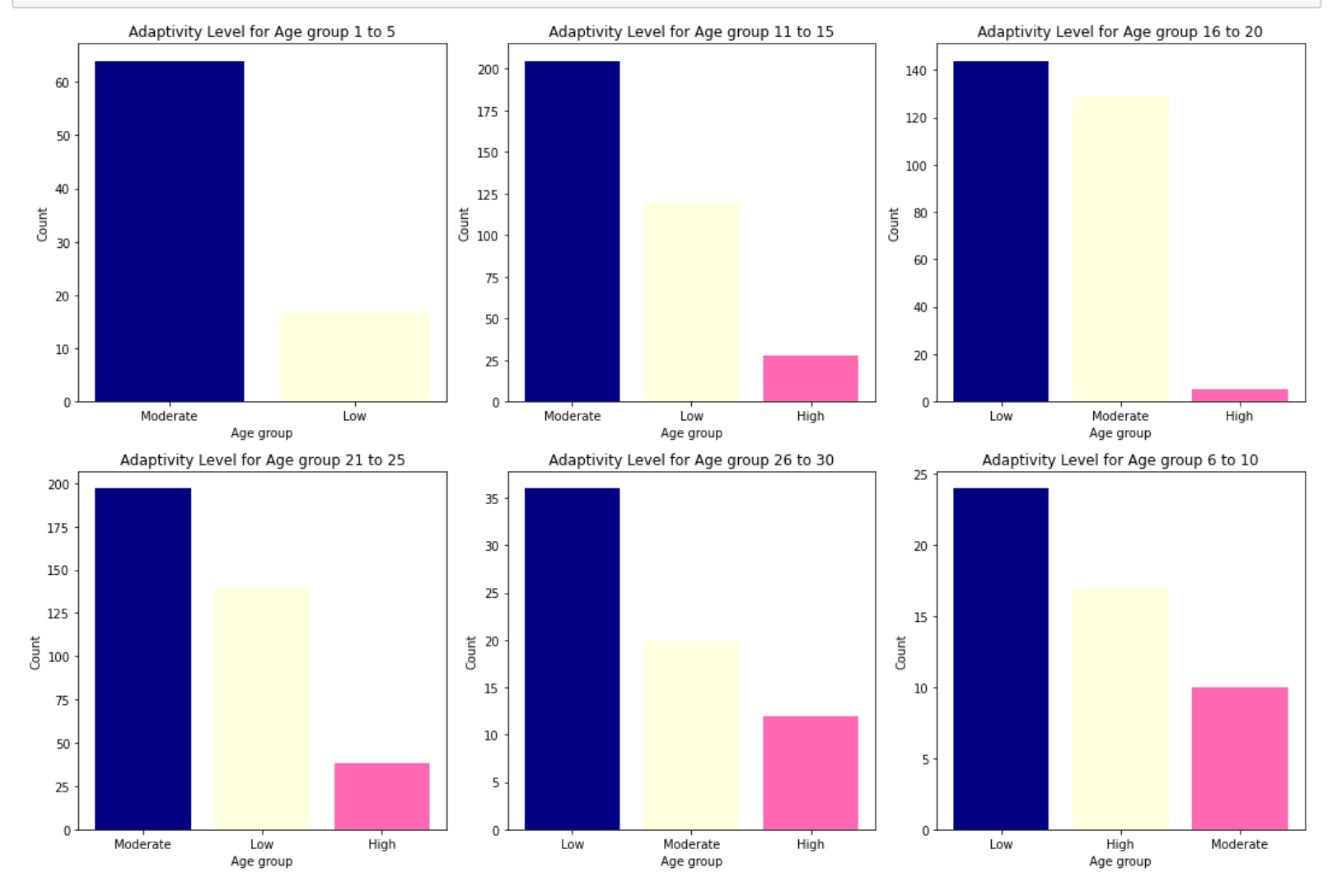
Out[17]:
```
Boy     663
Girl    542
Name: Gender, dtype: int64
```

In [34]:
```
random.shuffle(colors)
plt.figure(figsize=(15,10))
plt.subplot(2,2,1)
un, count = np.unique(data[data.Gender == "Boy"].values,return_counts=True)
plt.bar(un, count, color=colors)
plt.title(" Male Students")
plt.xlabel("Male")
plt.ylabel("Count")

plt.subplot(2,2,2)
un, count = np.unique(data[data.Gender == "Girl"].values,return_counts=True)
plt.bar(un, count, color=colors)
plt.title("Female Students")
plt.xlabel("Female")
plt.ylabel("Count")

plt.tight_layout()
```



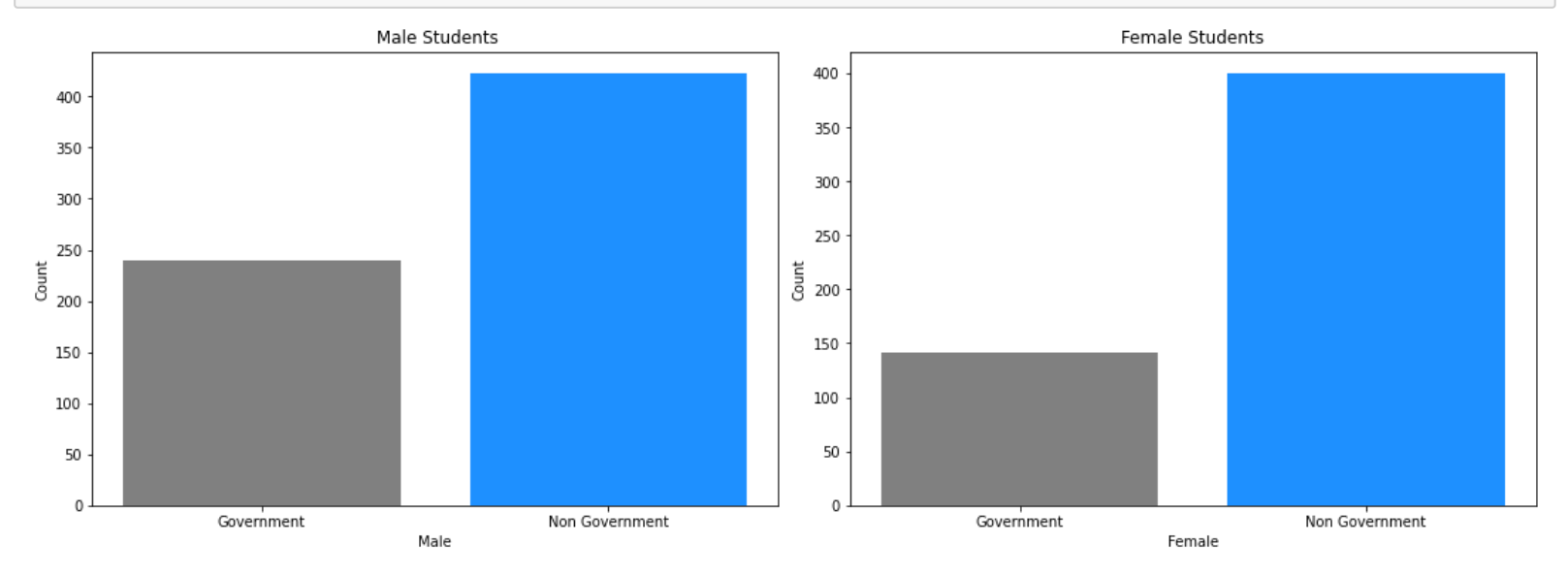
1. Draw an appropriate graph to count the number of students in different age groups.

In [20]:
```
random.shuffle(colors)
plt.figure(figsize=(15,10))
graphs = 1
for i in np.unique(data.Age.values):
    plt.subplot(2,3,graphs)
    un, count = np.unique(data[data.Age == i]["Adaptivity Level"].values, return_counts=True
)
    count, un = zip(*sorted(zip(count, un), reverse=True))
    plt.bar(un, count, color = colors)
    plt.title("students in different Age group " + i)
    plt.xlabel("Age group")
    plt.ylabel("Count")
    graphs = graphs + 1
plt.tight_layout()
```



1. Draw an appropriate graph to count the number of boy and girl students separately studying in different education institutions.

In [35]:
```
random.shuffle(colors)
plt.figure(figsize=(15,10))
plt.subplot(2,2,1)
un, count = np.unique(data[data.Gender == "Boy"]["Institution Type"].values,return_counts=Tr
ue)
plt.bar(un, count, color=colors)
plt.title(" Male Students")
plt.xlabel("Male")
plt.ylabel("Count")

plt.subplot(2,2,2)
un, count = np.unique(data[data.Gender == "Girl"]["Institution Type"].values,return_counts=T
rue)
plt.bar(un, count, color=colors)
plt.title("Female Students")
plt.xlabel("Female")
plt.ylabel("Count")

plt.tight_layout()
```



1. On a scale of 100%, draw an appropriate graph to project the Adaptivity Level of students.

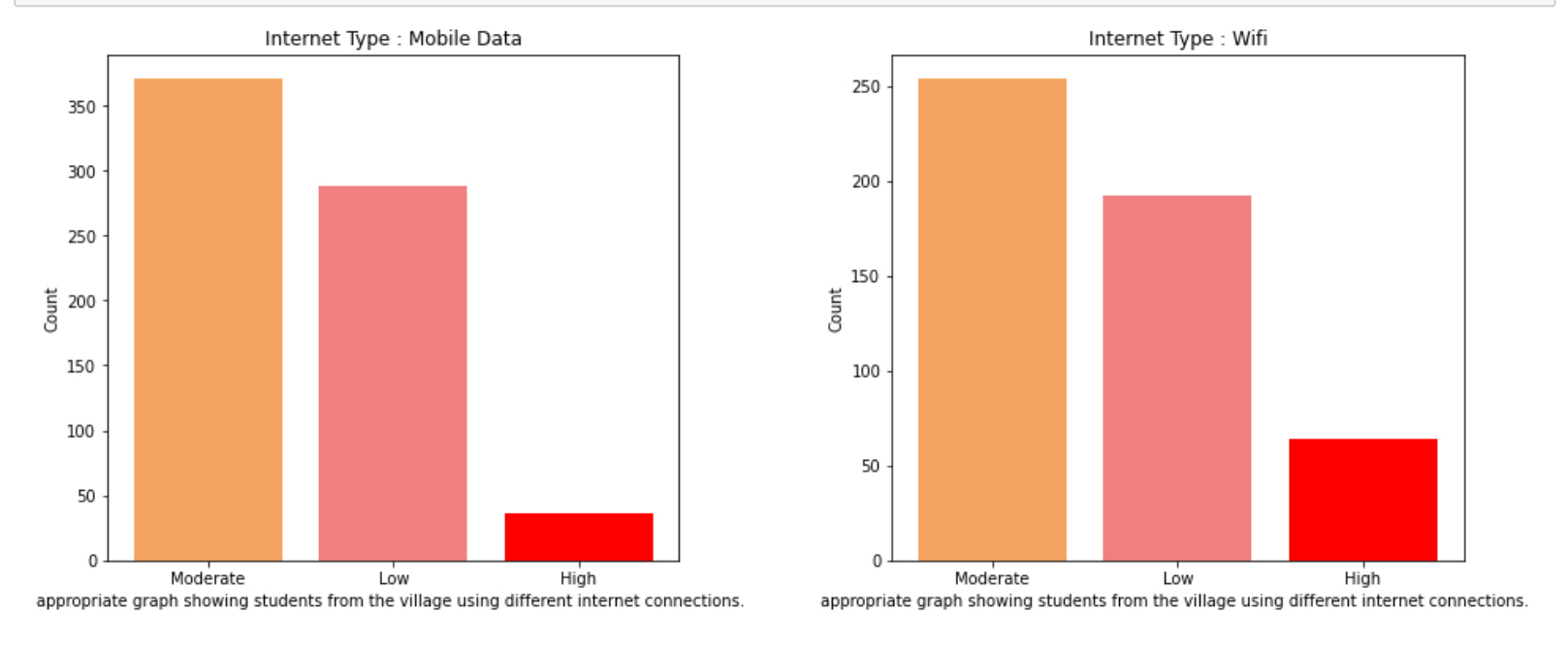
In [19]:

1. Use an appropriate graph to compare the performance of the students from town and from village.

In [ ]:

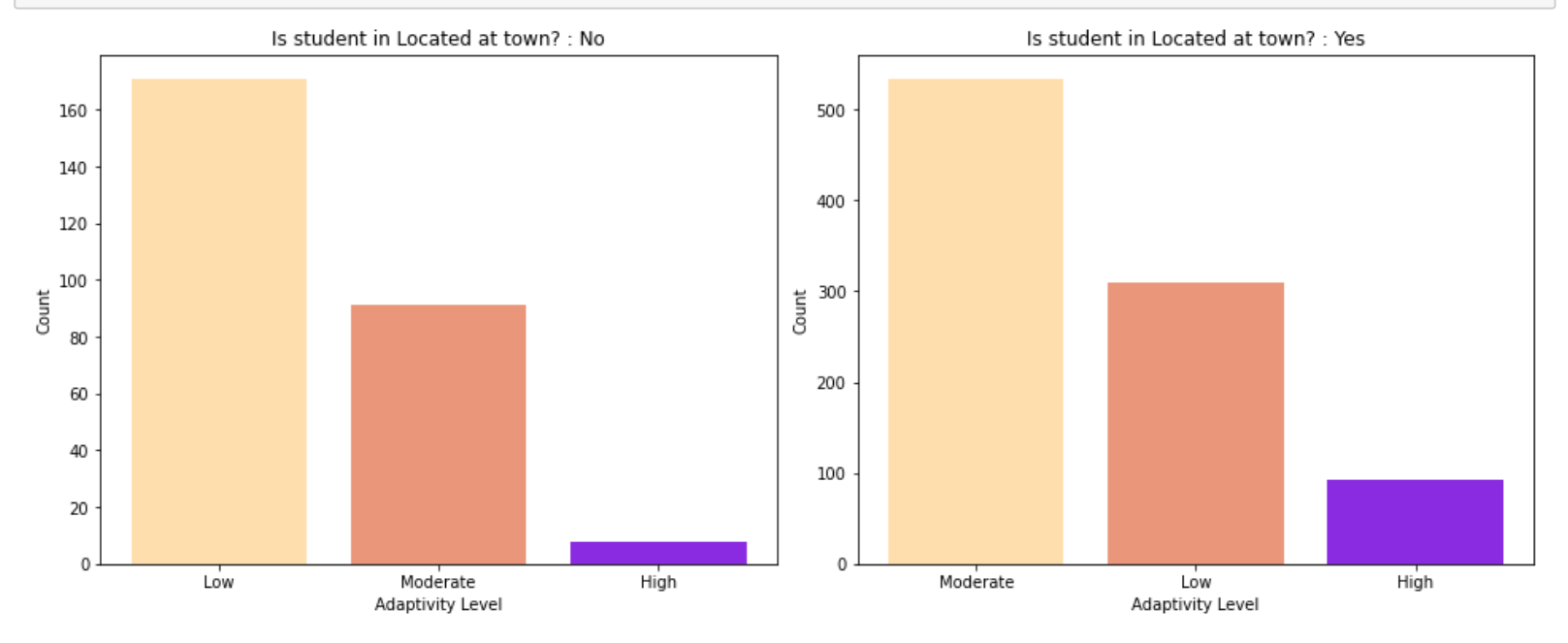
1. Draw an appropriate graph showing students from the village using different internet connections.

In [29]:
```
random.shuffle(colors)
plt.figure(figsize=(20,10))
graphs = 1
for i in np.unique(data["Internet Type"].values):
    plt.subplot(2,3,graphs)
    un, count = np.unique(data[data["Internet Type"] == i]["Adaptivity Level"].values, retur
n_counts=True)
    count, un = zip(*sorted(zip(count, un), reverse=True))
    plt.bar(un, count, color = colors)
    plt.title("Internet Type : " + i)
    plt.xlabel("appropriate graph showing students from the village using different internet
connections. ")
    plt.ylabel("Count")
    graphs = graphs + 1
plt.tight_layout()
```



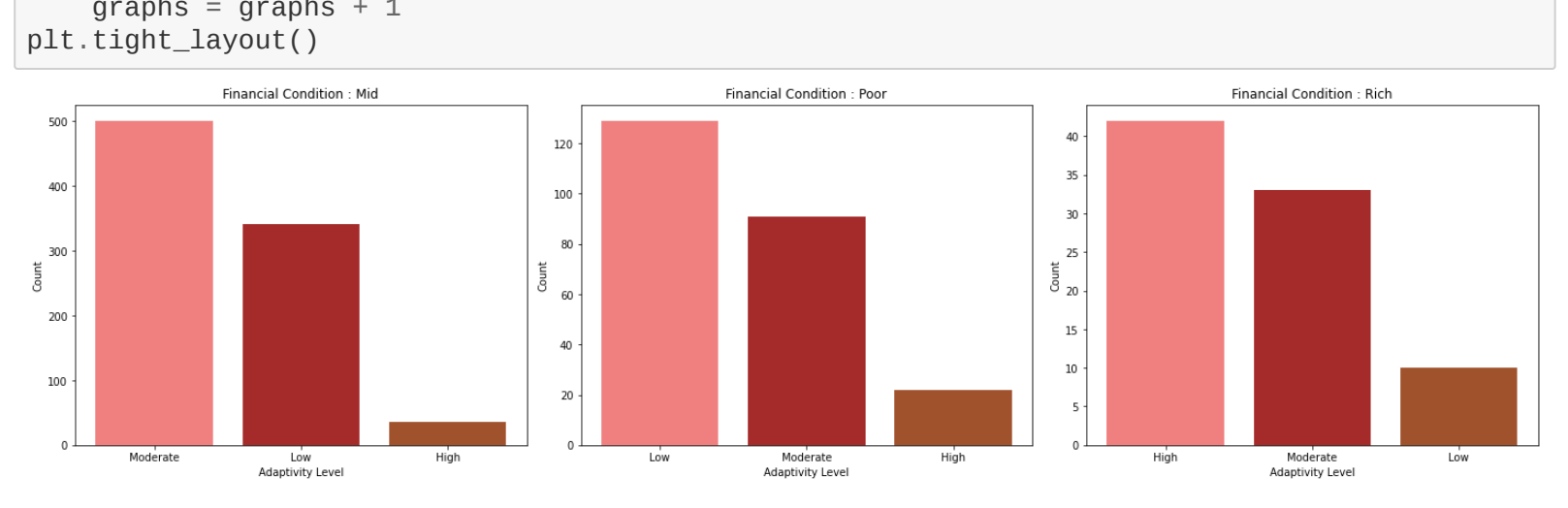
1. Compare the adaptivity levels of students from town and students from villages.

In [26]:
```
random.shuffle(colors)
plt.figure(figsize=(20,10))
graphs = 1
for i in np.unique(data["Location"].values):
    plt.subplot(2,3,graphs)
    un, count = np.unique(data[data["Location"] == i]["Adaptivity Level"].values, return_cou
nts=True)
    count, un = zip(*sorted(zip(count, un), reverse=True))
    plt.bar(un, count, color = colors)
    plt.title("Is student in Located at town? : " + i)
    plt.xlabel("Adaptivity Level")
    plt.ylabel("Count")
    graphs = graphs + 1
plt.tight_layout()
```



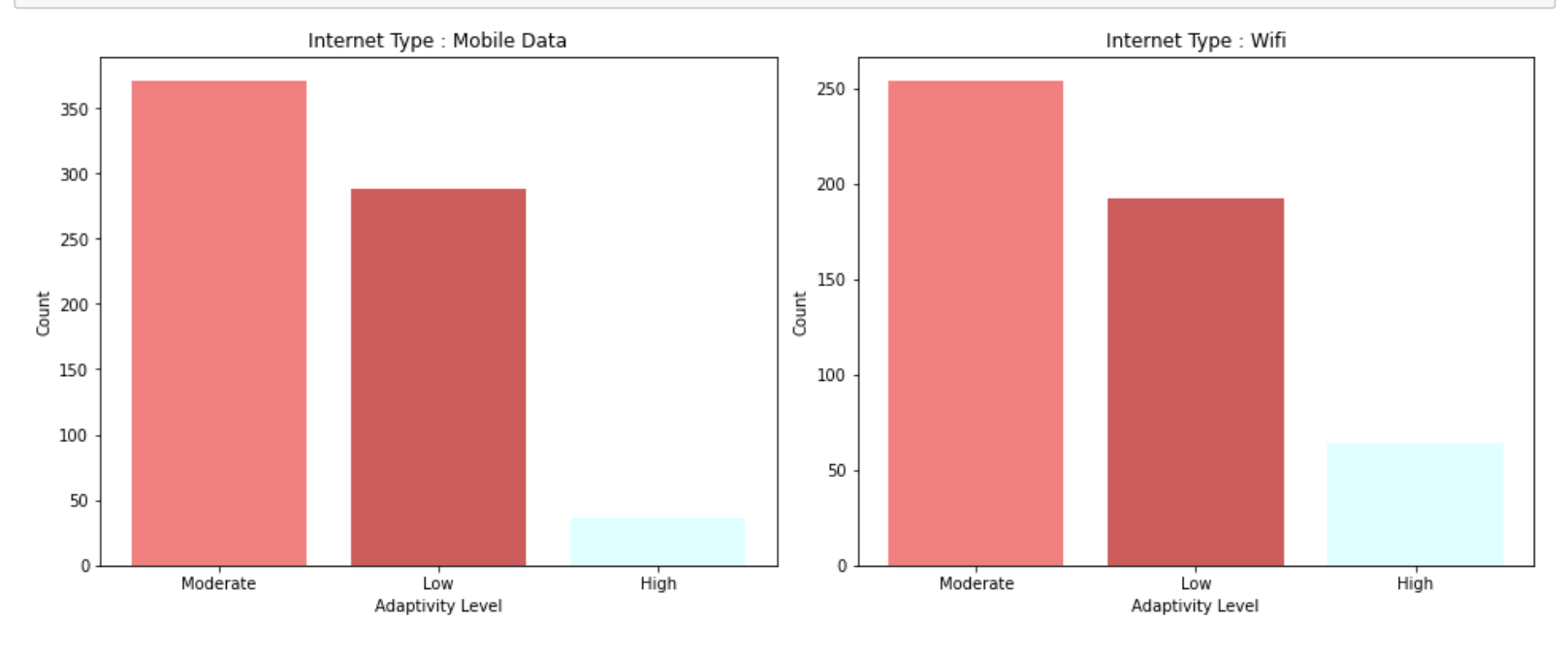
1. Who has a better Adaptivity Level under different financial conditions?

In [27]:
```
random.shuffle(colors)
plt.figure(figsize=(20,10))
graphs = 1
for i in np.unique(data["Financial Condition"].values):
    plt.subplot(2,3,graphs)
    un, count = np.unique(data[data["Financial Condition"] == i]["Adaptivity Level"].values,
return_counts=True)
    count, un = zip(*sorted(zip(count, un), reverse=True))
    plt.bar(un, count, color = colors)
    plt.title("Financial Condition : " + i)
    plt.xlabel("Adaptivity Level")
    plt.ylabel("Count")
    graphs = graphs + 1
plt.tight_layout()
```



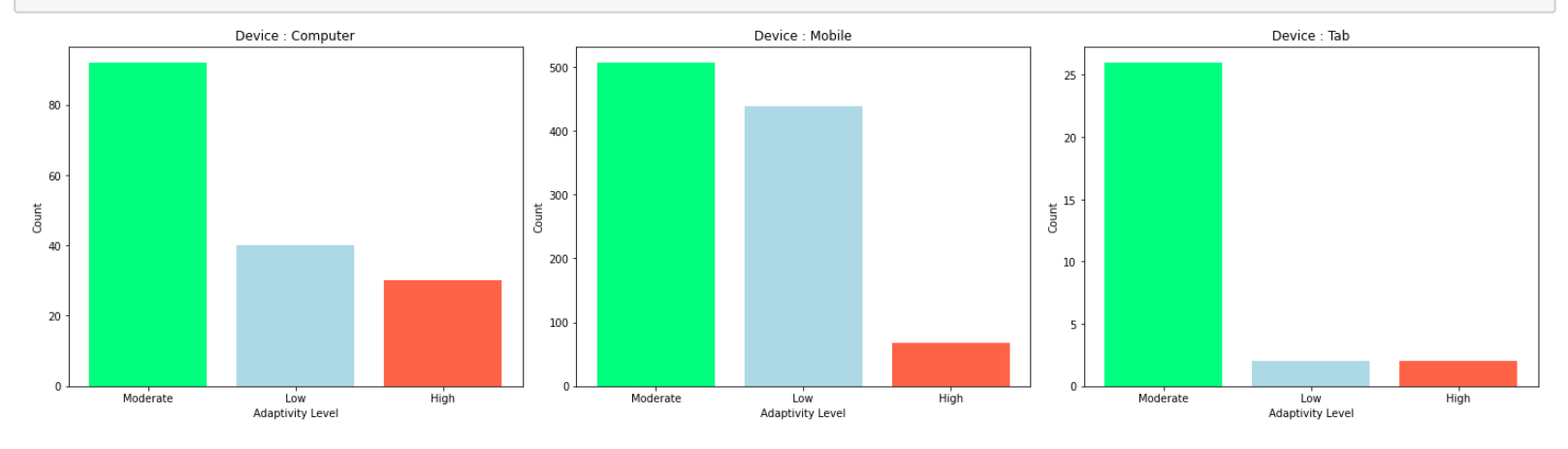
1. Does usage of mobile data vs wifi affect adaptivity levels of students?

In [37]:
```
random.shuffle(colors)
plt.figure(figsize=(20,10))
graphs = 1
for i in np.unique(data["Internet Type"].values):
    plt.subplot(2,3,graphs)
    un, count = np.unique(data[data["Internet Type"] == i]["Adaptivity Level"].values, retur
n_counts=True)
    count, un = zip(*sorted(zip(count, un), reverse=True))
    plt.bar(un, count, color = colors)
    plt.title("Internet Type : " + i)
    plt.xlabel("Adaptivity Level")
    plt.ylabel("Count")
    graphs = graphs + 1
plt.tight_layout()
```



1. Compare Financial Condition with Device owned. Is it true that poor people cannot afford a laptop?

In [36]:
```
random.shuffle(colors)
plt.figure(figsize=(20,10))
graphs = 1
for i in np.unique(data["Device"].values):
    plt.subplot(2,3,graphs)
    un, count = np.unique(data[data["Device"] == i]["Adaptivity Level"].values, return_count
s=True)
    count, un = zip(*sorted(zip(count, un), reverse=True))
    plt.bar(un, count, color = colors)
    plt.title("Device : " + i)
    plt.xlabel("Adaptivity Level")
    plt.ylabel("Count")
    graphs = graphs + 1
plt.tight_layout()
```



In [ ]:
```
!jupyter nbconvert --to html /content/19BCE7346_TARAN_NLP_Assignment_4.ipynb
```